

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Naoki TOMOGUCHI et al.

Confirmation No.: 3538

Serial No.: 10/573,706

Group Art Unit: 1791

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Examiner: ORLANDO, MICHAEL N.

For: PROCESS FOR MANUFACTURING POLARIZING PLATE, POLARIZING PLATE,
OPTICAL FILM AND IMAGE DISPLAY

DECLARATION UNDER RULE 1.132

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

I, Naoki TOMOGUCHI, a citizen of Japan and residing at 1-1-2, Shimohozumi, Ibaraki-shi, Osaka, 567-8680 Japan, c/o: DEVELOPMENT DEVELOPMENT SECTION 3 DEPT. 1, DEVELOPMENT SECTOR, OPTICAL RELATED DIV., OPTICALS BUSINESS HEADQUARTERS of NITTO DENKO CORPORATION, declare and say as follows:

1. I was graduated from Department of Chemical Science Engineering, faculty of Engineering, Miyazaki University in 2002.

2. Since 2002 to the present time, I have been employed by NITTO DENKO CORPORATION.

3. I am one of the inventors of the above-identified application and familiar with the subject matter thereof.

4. I have read the Official Action mailed and the references

cited therein and are familiar with the subject matter thereof.

5. Contents of Experiments:

Experiments were conducted to reference example 1, 2 for comparison with Examples in the specification as filed.

The reference examples 1, 2 were conducted shown below, according to a similar way of the Example 1 of the specification as filed.

Reference Example 1

A polarizing plate was obtained in a similar way to that in Example 1 with the exception that the way of manufacture of polarizing plate (a) in Example 1, a thickness of the adhesive layer is as shown in Table 1 described below.

Reference Example 2

A polarizing plate was obtained in a similar way to that in Example 1 with the exception that in the preparation of the polarizing plate of Example 1, an aqueous solution containing methylol melamine at a concentration of 10 wt % with a viscosity of 4 cP (at 23°C) was used instead of pure water. A thickness of an adhesive layer is shown in Table 1 described below.

In addition, there is a difference between Reference Example 2 and Example 17 of the specification as filed in the concentration of the aqueous solution containing methylol melamine. To make thicker adhesive layer, the thicker concentration of the aqueous solution containing methylol melamine was used in Reference Example 2 than that of Example 17.

(Evaluation)

The polarizing plates obtained in Reference Example 1, 2 were cut into polarizing plate samples so that a size of each polarizing plate sample is 50 mm in the direction of the absorption axis

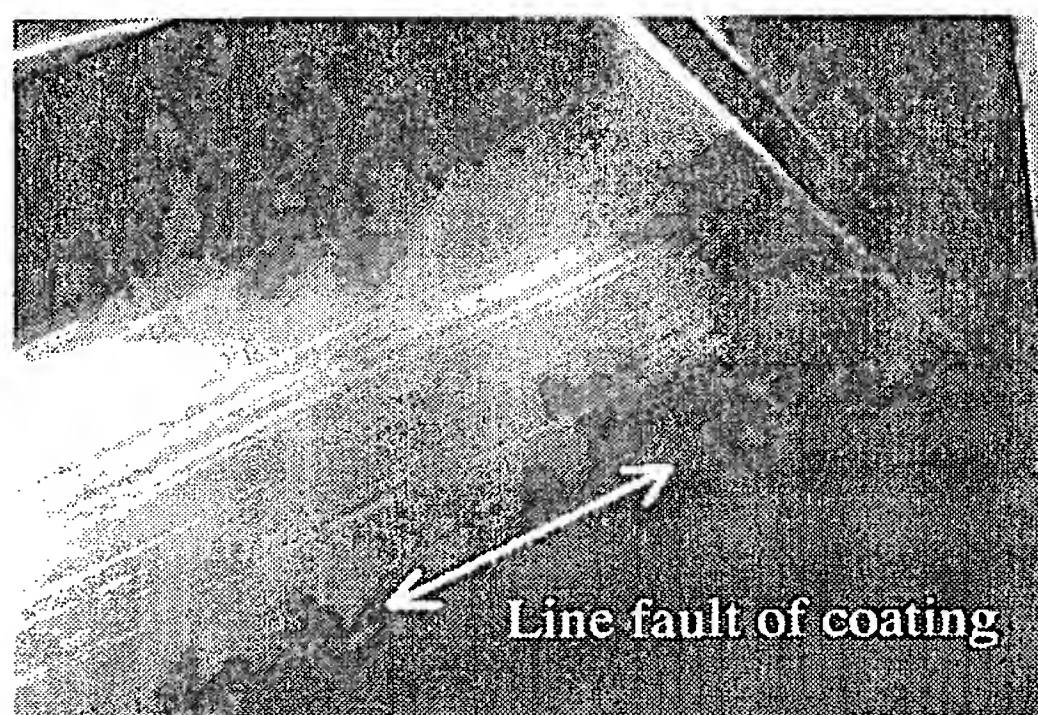
of the polarizer and 25 mm in a direction perpendicular to the absorption axis. Evaluations that are "Appearance Fault evaluation", "Light Leakage Evaluation" and "Durability", which are described the specification as filed, were conducted on the samples. The results of Reference Example 1, 2 are shown with the results of Example 1, 17 in Table 1 described below.

Results: shown in Table 1 and Figure 1

Table 1

	Adhesives			Thick nesses of dry adhesi ve layers (nm)	Aqueous liquids			Evaluation		
	Kinds of resins	Kinds of crosslinki ng agents	Concen trations in solution s (%)		Kinds	Conce ntratio ns (%)	Viscos ities (cP)	Appearance faults	Lig ht lea kag e	Durabili ty
Example 1	AA modified PVA	Methylol melamine	0.50	31	Pure water	—	1	○	○	○
Example 17	AA modified PVA	Methylol melamine	0.50	31	Aqueous solution	Methy lol melam ine (5%)	3	○	○	○
Reference Example 1	AA modified PVA	Methylol melamine	0.50	330	Pure water	—	1	×	○	×
Reference Example 2	AA modified PVA	Methylol melamine	10	1000	Pure water	Methy lol melam ine (10%)	4	×	○	×

Figure 1: related to Reference Example 2



Discussion:

Reference Example 1 is different from Example 1 only in the thicknesses of dry adhesive layer. The difference of the thicknesses of dry adhesive layer between Reference Example 1 and Example 1 is shown as the above result. That is, thicknesses of dry adhesive layer of Reference Example 1 exceeds 300 nm, therefore, appearance faults related to generation of stripe-shaped or dotted faults were observed all over the surface in Reference Example 1. And a peel of more than 30 mm was observed and further hue change was observed in Durability test.

Reference Example 2 is different from Example 17 only in the thicknesses of dry adhesive layer. The difference of the thicknesses of dry adhesive layer between Reference Example 2 and Example 17 is shown as the above result. That is, thicknesses of dry adhesive layer of Reference Example 2 was 1000 nm, therefore, appearance faults related to generation of stripe-shaped or dotted faults were observed badly-degraded all over the surface in Reference Example 2. It is shown in figure 1 as line fault of coating. And a peel in Durability test was larger.

6. I declare further that all statements made herein of my own knowledge are true, and that all statements on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above-identified application or any patent issuing thereon.

this 15th day of January, 2009

Naoki Tomozuchi